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16. (Original) The structure of claim 15, further comprising:

a silicon oxide layer formed between said substrate and said crystalline oxide layer.

17. (Original) The structure of claim 15, wherein the crystalline oxide layer comprises an oxide of at least one of the rare earth elements.

18. (Original) The structure of claim 15, wherein the crystalline oxide layer comprises an oxide of yttrium.

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19. (Original) The structure of claim 15, wherein the crystalline oxide layer comprises a mixture of oxides of different rare earth elements and yttrium.

20. (Original) The structure of claim 15, further comprising at least one additional layer of crystalline oxide and at least one additional layer of silicon formed on said additional layer of crystalline oxide.

21. (Original) A semiconductor structure, comprising:

a substrate;

a crystalline oxide layer formed over said substrate; and

an epitaxial germanium layer formed on said crystalline oxide layer.

22. (Original) The structure of claim 21, further comprising:

a silicon oxide layer formed between said substrate and said crystalline oxide layer.

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23. (Original) The structure of claim 21, wherein the crystalline oxide layer comprises an oxide of at least one of the rare earth elements.

24. (Original) The structure of claim 21, wherein the crystalline oxide layer comprises an oxide of yttrium.

A 25. (Original) The structure of claim 21, wherein the crystalline oxide layer comprises a mixture of oxides of different rare earth elements and yttrium.

26. (Original) The structure of claim 21, further comprising at least one additional layer of crystalline oxide and at least one additional layer of germanium formed on said additional layer of crystalline oxide.

27. (Original) A semiconductor structure, including:

a crystalline oxide surface; and

an amorphous layer of at least one of silicon, germanium, gallium arsenide, aluminum arsenide, indium phosphide, aluminum antimonide, indium arsenide, gallium phosphide and mixed alloys thereof, deposited on said crystalline oxide surface by evaporation or chemical vapor deposition.

28-55 (Withdrawn and canceled)

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56. (Previously Added) The structure of claim 15, wherein said substrate comprises a silicon substrate.

57. (Previously Added) The structure of claim 15, wherein said substrate comprises a germanium substrate.

58. (Previously Added) The structure of claim 21, wherein said substrate comprises a silicon substrate.

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59. (Previously Added) The structure of claim 21, wherein said substrate comprises a germanium substrate.

Please add the following new claims:

60. (New) The structure of claim 15, wherein said crystalline oxide layer is formed directly on said substrate.

61. (New) The structure of claim 21, wherein said crystalline oxide layer is formed directly on said substrate.

62. (New) The structure of claim 27, further comprising a silicon substrate, wherein said crystalline oxide surface is formed directly on said silicon substrate.

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63. (New) The structure of claim 15, wherein said epitaxial silicon layer comprises a single-crystal epitaxial silicon layer.

64. (New) The structure of claim 21, wherein said epitaxial germanium layer comprises a single-crystal epitaxial germanium layer.

65. (New) The structure of claim 15, wherein said crystalline oxide layer comprises an epitaxial oxide layer.

A 66. (New) The structure of claim 21, wherein said crystalline oxide layer comprises an epitaxial oxide layer.

67. (New) The structure of claim 27, wherein said crystalline oxide surface comprises an epitaxial oxide surface.

68. The structure of claim 15, wherein said crystalline oxide layer comprises a single-crystal oxide layer.

69. The structure of claim 21, wherein said crystalline oxide layer comprises a single-crystal oxide layer.

70. The structure of claim 27, wherein said crystalline oxide surface comprises a single-crystal oxide surface.

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71. (New) The structure of claim 15, wherein said oxide layer crystallizes to have a bixbyite structure.

AI 72. (New) The structure of claim 21, wherein said oxide layer crystallizes to have a bixbyite structure.

73. (New) The structure of claim 27, wherein said crystalline oxide surface crystallizes to have a bixbyite structure.

74. (New) The structure of claim 15, wherein said crystalline oxide layer is exactly lattice-matched to silicon.

75. (New) The structure of claim 27, wherein said crystalline oxide surface is exactly lattice-matched to silicon.
